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NEWS ISSUE – MAY 6, 1948

Ninth and last generator goes into service at West Powerhouse of Coulee Dam

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Originators of the Multiple V-belt Drive for Industry

News of the Week

ENGINEERING NEWS-RECORD • MAY 6, 1948 • VOLUME 140 • NUMBER 19

Builders and manufacturers study cement decision effect

Supreme Court ruling outlawing basing-price plan seen giving buyer choice of market—Other industries may be affected by interpretation of decision

Last week's Supreme Court decision in the Portland Cement case (*ENR* April 29, vol. p. 622) calls for complete readjustment of the cement manufacturers' price and marketing policies within the next five months. That is the immediate effect—now expected to be less disastrous than pessimists predicted in the first days after the decision was announced.

Beyond that important change, Washington observers agreed, the decision carried implications of even greater significance to the construction industry and to many of the manufacturing industries that serve it.

Basically, the Supreme Court directed a lower court to enforce a Federal Trade Commission order instructing the cement companies to cease and desist from any concerted action: (1) to quote or sell cement on a multiple-basing point, delivered-price system, or (2) to discriminate between customers by charging different "mill net prices" on orders going to different destinations. In simple terms, the mill net price is the delivered price less freight. The practical meaning of the order, when it goes into effect, will be to put cement prices of all plants on an FOB mill basis.

Buyer gets choice

That change will put the decision up to the buyer as to where and how he can get his cement at the lowest cost. For the cement producer, it will shrink the market territory in which a plant can sell competitively.

Historically, the cement industry has operated on the basis of a uniform delivered price for all brands of cement offered at any delivery point. The system has been supported by the industry's generally accepted practice of using a delivered price made up of the cement price at the nearest base mill plus the freight rate to the delivery point. Freight rates for figuring the latter charge were made available to the industry by the Cement Institute, to which nearly all the cement companies belonged.

Uniform pricing has been ably defended by the cement companies as necessary for the orderly and economic marketing of a standard product. The system has been generally satisfactory to the customers, as well as to the producers. Under it, a mill could sell at any delivery point where it was willing to compete with other producers on an identical delivered price basis. Mills thus could and did compete in each other's territories, absorbing the freight differential when they went beyond the boundaries of their own natural marketing areas.

The Supreme Court decision rules against such use of a delivered-price system as discriminatory.

To remain solvent, a base mill has to set its base price at a level which will enable its over-all operations to absorb the higher cost of selling outside its economic marketing territory. A non-base mill, favorably located with regard to a delivery point, can deliver there for less than the freight rate established by the basing-point system and thus make a profit on what is called phantom freight.

In neither case does the customer get the price to which he is entitled by law, the decision declares.

Smaller mills affected

Enforcement of the FTC order may force out of business some of the non-base mills which cannot compete if their production costs are too high. In effect, the order will create a geographical monopoly for a mill in its own marketing territory.

In most parts of the country, this will limit the customer's choice, on a price basis, to one brand (or to a few brands), but proponents of the change hold that it will result in a lower average cost for cement. In the past, they state, the customers have been paying the freight for cross-hauling of cement

(*Continued on page 3*)

Restore $102 million for Army work

The Senate Appropriations Committee has voted to restore $102,000,000 of recommended funds to the Army's Civil Functions Bill (H. R. 5524) for fiscal 1949. These increases, including $58,000,000 for flood control and $43,000,000 for rivers and harbors, raise the total to $708,586,000 in the bill to be considered by the Senate.

Deductions by the House (*ENR* Mar. 4, vol. p. 340) had lowered the total to $606,000,000 in the Civil Functions Appropriations Bill passed by that body—$131,000,000 less than the budget request submitted by President Truman (*ENR* Jan. 15, vol. p. 75).

Largest single increase granted to Corps of Engineers projects by the Senate committee is for flood control, Mississippi River and tributaries, raised $7,500,000 to a total of $67,500,000. Other major increases to flood control projects are:

Missouri River levees, Sioux City to mouth, up $1,500,000 to $9,500,000; Louisville, Ky., up $1,000,000 to $4,500,000; Wolf Creek Reservoir, Ky., up $5,200,000 to $17,600,000; Harlan County Reservoir, Neb., up $1,100,000 to $8,600,000; Garrison Dam, N. D., up $3,900,000 to $28,900,000; Dillon Reservoir, Ohio, up $2,000,000 to $3,000,000; Fort Gibson Dam, Okla., up $2,500,000 to $9,000,000; Lookout Point Reservoir, Ore., up $1,000,000 to $6,000,000; Fort Randall Dam, S. D., up $3,000,000 to $19,000,000; and Oahe Reservoir, S. D. and N. D., up $1,800,000 to $3,000,000.

Among rivers and harbors projects, McNary Lock and Dam on the Columbia River, Oregon and Washington, receive a $7,000,000 boost to a total of $27,000,000.

NEWS IN BRIEF

In telegraphic form, here are latest news developments on the engineering and construction front during the week.

Public Construction—Delaware Medical Center, Inc., will build a $700,000 building in *Buffalo, N. Y.* . . . *Philadelphia, Pa.*, will take bids soon for a $3,000,000 juvenile detention home . . . Howard M. Duvall, Jr., will direct work on a $4,000,000 school building program at *Charlotte, N. C.* . . . Southeastern Louisiana College at *Hammond, La.*, is planning $5,000,000 worth of improvements . . . A $1,500,000 school expansion program to include three new buildings, has been recommended for *Marion County, Ind.* . . . A war memorial coliseum is proposed for *Fort Wayne, Ind.* . . . An American Legion building is to be erected at *Linton, Ind.*

Industrial Construction — Alabama Power Co. plans a $5,000,000 addition to its *Chickasaw, Ala.*, generating plant . . . A $5,000,000 shopping center will be built at *Drexel Hill, Pa.*, by Peter S. Mozino . . . Turner Construction Co., New York, has a contract for a 220x240-ft. warehouse for the Gulf Refining Co. at its *Philadelphia, Pa.* refinery . . . Interstate Commerce Commission has approved a $37,000,000 project to build a new union railroad passenger terminal at *New Orleans, La.* . . . A $3,000,000 industrial building of 800,000 sq. ft. is being planned for *North Kansas City, Mo.*, by the North Kansas City Development Co. . . . A Ford truck service center building is to be built at *Chattanooga, Tenn.*, by Furlow-Cate Inc. . . . Plans are going ahead for a $5,000,000 plant of the Indianapolis Western Electric Co. to be built in *Warren Township, Ind.* . . . A $30,000,000 expansion of research facilities at the E. I. duPont de Nemours experimental station at *Wilmington, Del.*, has been approved by company executive and finance committees for construction in the near future.

Highways—*Rhode Island* will increase the legal maximum truck and load weight from 46,000 to 50,000 lb. . . . *Connecticut* is buying its own steel for highway projects, as contractors find it hard to get quick deliveries . . . Steel tubing for the *Galena Park—Pasadena, Tex.*, tunnel under the Ship Channel will cost $500,000.

Housing—Construction of an additional eighteen 13-story buildings at the Parklabrea housing development of the Metropolitan Life Ins. Co. in *Los Angeles, Calif.*, will begin at once . . . Mozina Development Co. will build a $4,000,000 residential project at *Springfield, Pa.* . . . Illinois Institute of Technology *Chicago, Ill.*, will seek bids soon for a 120-family housing unit . . . Hartley Homes, an addition to the residential development of *Valley Stream, N. Y.*, has been announced by Lane Realty and work has started on 50 one-family dwellings in the $14,500 class . . . The N. Y. City Housing Authority takes bids May 18 for the 1,368-apartment Woodside Houses in *Queens Borough* . . . The proposed $1,800,000 Webber Estate housing development in *Lackawanna, N. Y.*, has been doomed by the city council, which amended zoning ordinances to prohibit building of apartment units of greater than two-family capacity.

Floods—Governor R. N. Gates and other Indiana officials visited flood-damaged *Aurora* and other Ohio River communities to study means to keep highways open in that area during floods . . . Replacement of two flood-destroyed bridges in *Delaware County, Ind.*, will cost $50,000 . . . Flood damage to roads, bridges, crops, buildings and other property in *Georgia* this spring amounts to about $5,000,000.

Miscellany—Final plans for relief sewers at *Elkhart, Ind.*, and a sewage treatment plant at *Pendleton, Md.*, indicate the cost will be $780,000 . . . Socony Vacuum Oil Co. Inc., has plans for a $6,000,000 pipeline from *Binghamton, N. Y.*, to *Malvern, Pa.* . . . In about 6 weeks work will start on a sewage disposal plant for Colonial Heights, a suburb of *Richmond, Va.*

Calls parapet walls an earthquake hazard

By designing buildings to resist horizontal forces and by using proper materials, Southern California can be made safe against earthquakes, says John P. Buwalda, professor of geology at the California Institute of Technology. Telling members of the Los Angeles Chamber of Commerce construction industries committee that he predicts no quakes of larger intensity than those already experienced in the area, he recommended the use of materials of high compression and tensile strength capable of being tightly bonded together. He said parapet walls are the greatest earthquake hazard and urged they should be either strengthened, lowered or removed.

G. E. Morris, City Superintendent of Building, said that he had advocated a city ordinance to control the use of parapet walls.

New Mexico OK's bonds for many public works

Bond issues totaling $6,050,000 have been approved by New Mexico school districts and municipalities during the last month. About $5,098,000 of this total was approved by towns and cities at municipal elections April 6.

The largest amount approved by any city was $975,000 by Roswell, for improvements and expansions of municipally-owned water and sewer systems, and for improvements to its airport.

Other communities that approved bonds, almost all for water and sewer system improvements, include:

Raton, $627,000; Las Cruces, $625,000; Alamogordo, $500,000; Belen, $100,000; Bernalillo, $116,000 general obligation bonds and $75,000 revenue bonds for a water system; Carlsbad, $530,000; Clayton, $44,000; Melrose, $50,000; Mountainair, $95,000; Las Vegas, $208,000; Silver City, $340,000.

THE COVER PICTURE

The ninth and final hydro-electric generator in the West powerhouse at Grand Coulee Dam went into production April 23, to bring installation of major units at the dam to the half-way point.

The East powerhouse—still under construction—will provide space for nine more generators.

The newest generator brings the rated capacity to 992,000 kw., with a peak capacity of 1,150,000 kw.—said to be about twice as great as that of any other power plant in the Pacific Northwest.

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New move to get St. Lawrence power started by Governor of New York

International Joint Commission would be asked to allow N. Y. Power Authority and the Ontario Hydro-Electric Commission to work jointly

Governor Thomas E. Dewey of New York has instructed the Power Authority of the State of New York to begin negotiations with Ontario for joint development of the water power resources of the International Rapids section of the St. Lawrence River. Under the plan sponsored by Governor Dewey, an application would be made to the International Joint Commission for permission for the work to be undertaken jointly by the Power Authority of New York and the Ontario Hydro-Electric Power Commission.

About 2,200,000 hp. can be developed in this section of the river at a cost to New York State of $131,000,000. for its half of the power, according to estimates of the power authority based on construction costs of May, 1947. Development of this power was included in the 1941 agreement between this country and Canada for the St. Lawrence seaway and power project, which was again rejected by Congress in March (*ENR* March 4, vol. p. 340) when a joint resolution giving effect to the agreement was referred to a committee for further consideration. At that time, little objection was raised to the power development portion of the program.

Action under 1909 treaty

This new plan for getting the power project started is based on the assumption that the work could be authorized by the International Joint Commission, which was set up under the Boundary Water Treaty of 1909. In a dispatch to the *New York Times* of May 2, A. O. Stanley, chairman of the United States section of the commission, is quoted as saying that the commission could approve applications for permission to build the necessary structures.

On the matter of work in the international waters not covered by the treaty, such as the proposed power development, Article III of the treaty says: "It is agreed that, in addition to the uses, obstructions and diversions heretofore permitted or hereafter provided for by special agreement between the parties hereto, no further or other uses or obstructions or diversions, whether temporary or permanent, of boundary waters on either side of the [boundary] line, affecting the natural level or flow of boundary waters on the other side of the line, shall be made *except by authority of the United States or the Dominion of Canada* within their respective jurisdictions *and* with the approval, as hereinafter provided, of a joint commission, to be known as the International Joint Commission."

The words in italics above appear to indicate that while approval by the commission would be necessary, approval by the governments of both Canada and the United States also would be required before actual construction could be undertaken. Further, as the treaty gives navigation requirements precedence over power development, the dams needed for power could not be built without first making provision for maintenance of the existing canal on the Canadian side, which would be put out of service by the proposed power dams.

It does not appear probable that congressmen who advocate construction of a 27-ft. ship canal to replace the antiquated canal on the Canadian side would permit Congress to be bypassed in the manner suggested by Governor Dewey, as construction of dams without provision for the locks might block the seaway development indefinitely.

Assess effect of cement price ruling

(*Continued from page* 1)

into competing territories. With an FOB price at the mill, the customer can decide for himself what is the cheapest means of getting the cement from the mill to his plant or project.

Plenty of cement

There is little fear that the changeover will deprive the construction industry of the cement that it needs for this year's program. Last year's output of more than 187,000,000 bbl. utilized 78 percent of the productive capacity of 150 operating mills.

Latest government figures available (now two months old) showed 20,345,000 bbl. on hand in cement stocks at the end of February—slightly more than the amount in storage at the mills on the same date last year. The coal strike may have caused some small slowing of production, but the industry looks to be in good shape to handle this year's demand. Spotty and sporadic shortages, such as have occurred in the last two years, may be accentuated by the changeover to the new system. It is too early to report cement company plans. Managements are still wrestling with the problem, and some changes are in prospect for cement promotion and selling techniques.

Through the industry-supported Portland Cement Association, the manufacturers have furnished a highly useful research and engineering advisory service to users of cement. What effect the new conditions will have on the activities of this organization has not been determined.

Portland cement plants on the whole are reasonably well situated with regard to basic materials, including fuel, and markets. Through the years, the new competitive arrangement may influence a redistribution of mills, but the direction of that change cannot be predicted today.

On a broader front, the Supreme Court decision may affect the selling methods of a number of other industries supplying products to the construction market. Cases now pending in the court involve the U. S. Steel Corp. and the Rigid Steel Conduit Association.

The Federal Trade commission has before it at present a number of other cases involving delivered-price systems. These include the American Iron and Steel Institute; Structural Clay Products, Inc.; Crouse-Hinds Co.; Clay Products Association; Clay Sewer-Pipe Association; Douglas Fir Plywood Association; and the Fir Door Institute.

Also, cases are pending involving the Cast Iron Soil Pipe Association; the Chain Institute, the National Lead Co. and the Metal Lath Manufacturers' Association, according to latest lists of FTC action.

For the cement companies and the the Cement Institute, as much as five months may elapse before they have to report compliance. Several weeks will pass before the Supreme Court order is delivered to the Circuit Court of Appeals in Chicago, directing enforcement. Another 30 days will be consumed in considering the form of decree and entering it. Finally, the decree will allow the cement companies 60 to 90 days in which to report the form and manner of compliance.

One immediate effect was the issuance of an order by the Federal Trade Commission against the American Refractories Institute and 37 corporations, covering pricing of standard 9-in. brick, special-shape brick, and other items.

DEVELOPMENTS BEYOND U. S. BORDERS

Digested from reports by Engineering News-Record correspondents and the McGraw-Hill World News Bureau

Conference on standardization of American goods for ERP—Large aluminum foil plant for Mexico—American engineers build cotton mill in Burma—Industrial developments reported

A first conference aimed at clarification of standards, specifications and technical contracts for purchasing American merchandise under the European Recovery Program was held in New York April 23 for representatives of the interested countries, and business and scientific interests.

Acknowledging a lack of standards for the wide range of materials and merchandise required by Europe, and the possibility of misunderstanding and waste growing out of the spending of more than six billion dollars in a brief period, the meeting stressed the need for a clear-cut means of correlating the scientific facilities and information available for making the project an economic success.

Under the leadership of D. E. Douty, Chairman of the Board of the United States Testing Co., the discussions covered all phases of technical specifications, testing, inspection, packaging and shipping. Because the various foreign buying commissions will, in the main, be in direct contact with U. S. producers and manufacturers, emphasis was laid on the necessity for clear-cut contractural relationships, detailed technical specifications and a closely integrated method of proper inspections and testing. This, it was said, would broaden the opportunity for obtaining large quantities of merchandise at competitive prices, especially when the purchasing commissions will be in competition with American consumers.

Industrial Developments . . .

Mexico—The first aluminum foil plant in Mexico, erected by Reynolds International de Mexico, S. A., at a cost of $2,500,000 was opened recently.

The plant is at Tlalnepantla, near Mexico City. While only aluminum foil is being produced now, the rolling of aluminum sheet and the fabrication of aluminum shapes is planned.

Burma—The Union of Burma, through its ambassador, I. So Nyun, has employed Lockwood Greene Engineers, Inc., as consulting and supervisory engineers for erection and layout of that country's first cotton spinning and weaving mill, to cost about $3,000,000.

The Union of Burma, which recently attained full independence, has announced its intention of providing the country with new and urgently needed industrial plants, including those used for the manufacture of pulp and paper, caustic soda and sulphuric acid.

Italy—Azienda Metanodotti Padani has obtained Shell Oil Co.'s backing for the construction of pipe line from Rovigo to Contarina, Mestre, and Treviso near Venice. The pipe will have a capacity of 5,000,000 cu. meters per day. Construction equipment for laying the pipe will be bought in Britain.

Power . . .

Argentina — Parsons, Brinckerhoff, Hogan & MacDonald, New York consulting engineers, have been awarded a contract for preliminary studies of the $100,000,000 Rio Juramento hydroelectric and irrigation project in the provinces of Salta, Jujuy and Tucuman.

In addition to the economic utilization of electric power, the project also provides for flood control and irrigation among the provinces of Salta, Jujuy, Tucuman and Santiago del Estero.

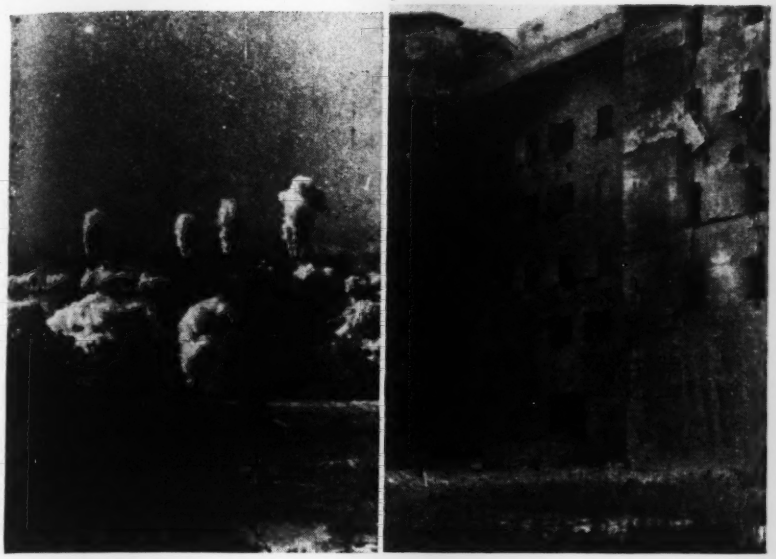
The work is divided into three stages: Preliminary investigations, studies, surveys and accumulation of data; the preparation of final plans and specifications of approved projects; and the supervision and inspection of projects which are to be completed as determined.

South Africa—The government intends to proceed immediately with the Allemanskraal Dam on the Great Fish River. The dam, to cost about $2,000,000, would augment the waters of Lake Arthur and Grassridge Dam for present developments in the Cradock area. It would be so constructed as to fit in with the major scheme for supplementing the waters of the Sundays and Great Fish rivers by bringing in surplus water from the Orange River.

Russia—The Soviet Union's second largest hydro-electric station, surpassed in size only by the Dnieper River plant in the Ukraine, is currently under construction on the Kama River at Molotov.

Called the "Ural Dnieper," the Kama River power project involves construction of a reinforced concrete spillway dam and an earth dam about 1.5 miles long across the Kama River one mile below the confluence of the Chusovoi. In addition, two 6-chamber navigation locks are being built along the left bank of the river. The waters impounded will form a vast reservoir of 608 sq. mi.

ESTUDIANTES DETERMINADOS—Looking spruce and chipper after their arrival at the first Inter-American Sanitary Engineering Congress in Santiago, Chile, last month, these five graduates from the Escuela Nacional de Ingenieros in Lima, Peru, had quite a story to tell. With less than $100 among them, they began their 1,600-mile journey on a coastal cattle boat. A few days later, the boat had to make a forced lay-over in an obscure port, from which the boys finally made their way into Santiago after days of travel.



***But It Didn't Work**—Some 50,000 pounds of TNT is behind the clouds of smoke at left, as British army engineers attempt to demolish huge flak-tower in a Berlin park. But the heavily-reinforced concrete structure withstood the heavy blast, despite slight bulges in some of the outside walls.*

Fort-type structure in Berlin tests demolition ingenuity

The formidable flak tower in Berlin's central park—the Tiergarten—which British army engineers tried unsuccessfully to demolish last August, has provided an excellent subject for experimentation on controlled demolition of heavily reinforced concrete buildings.

Used to mount anti-aircraft guns and to house the crews, it is similar in design although built of a better quality of concrete than a nearby control tower and air raid shelter, which was demolished by a concussion charge using British ammonal. But, ammonal being unobtainable at the time the flak tower was being prepared for demolition, 50,000 lb. of TNT was substituted, with the result that the structure was not demolished although it was severely damaged and rendered unusable.

To try again this month

The next attempt at demolition is set for May 31, when bore-hole charges will be used. Experimentation with this method has demonstrated its value, although the first attempt was not fully successful due to faults in execution, which will be corrected. Furthermore, a new demolition formula, devised by the Royal Engineers and used by them with success in demolishing U-boat pens in Holland, will be employed.

Although the tower would constitute no problem were unlimited use of explosives possible, its construction nevertheless is probably unprecedented except in major fortifications. About 100 ft. high and weighing 190,000 tons, the structure has outside walls 8.25 ft. thick, and roof and ground floor 11.5 ft. thick. Each of its five upper floors has an average thickness of 2 ft. The reinforcement in the concrete of the walls and roof consists of spirals of ½-in. dia. steel joined together with ¾-in. horizontal and vertical tie bars. Two-way reinforcement in the floors consists of 1½ in. rods in one direction and ¾ in. rods in the other.

The tower rests on a 1-ft. thick foundation slab or raft, slightly dish-shaped, with a slope of about 1:200 toward the center to insure against movement. Within the building are four columns approximately 10 ft. square, into which floor and roof beams frame, their outer ends being carried by the wall.

In the attempt to demolish the tower with TNT, a cordeau ring main was placed on each floor, with an initiating point on each landing in the center of the building; also five vertical ring mains connected to each floor ring main, one in the center stair well and one in each corner stair well. The six initiating points were detonated electrically.

All windows and doors were sealed. When the charge was detonated on Aug. 30, 1947, none of the walls collapsed, although three of the four bulged slightly, and cracks appeared at construction joints. All four of the columns were cut, but the floors remained tied to the outside wall.

TNT acts too fast

In commenting on the results British army engineers noted that, "All previous blows were calculated on the concussion charge principle, and never before had so large a charge of fast-detonating explosive, such as TNT, been used. Fast gases of the TNT apparently blow out all the weak points first, and so do not build up a pressure sufficient to burst the walls outward.

"No charges were allowed for cutting the beam ties to the outside walls, which helped to stay the outside walls from toppling initially. Also the concrete is undoubtedly of high quality."

Concluded the report: "Concussion charges by themselves are by no means the right answer. They work all right in the case of a simple box-type structure, but not in a framed and complicated one like the flak tower."

"It is necessary to cut the reinforcement in a number of places along the faces of the walls to be blown, in lines at a suitable distance one above the other. This is best done by making bore holes (either by compressor drills or shaped-charges) two thirds through the walls, boring the lines in opposite directions (e.g. bottom lines from inside the building, top lines from outside the building). Fill these holes with plastic explosives. At the same time, place booster charges inside the building. Blow the whole of the explosives together.

"The result is that a section of the wall is cut right through, is given a turning movement by the opposite effect of the lines of cutting charges, and the cut section of the wall is bodily blown out by the inside booster charge. The remainder of building above this cut then topples as it is no longer supported."

The new formula to be used for the final demolition is: $C = 1.1 \times T$ in which C is the charge in lb. per lineal foot of wall and T is the thickness of wall in feet. For example, with a 9 ft. wall, $C = 1.1 \times 9$, or 10 lb., to disrupt one foot of wall. Assuming bore holes carry 25 lb. of plastic explosive, spacing must be $2\frac{5}{10}$, or 2½ ft. apart. This formula does not allow for cutting ties on inside walls or for the booster charge to throw the walls out.

Indiana water men question fluorination

State group discusses everyday problems of waterworks engineers in annual meeting

Indiana waterworks engineers and operators last week questioned the wisdom of fluorination of public water supplies without further experimentation, as they concluded their 40th annual meeting at Lafayette.

In a resolution approved at the close of the April 21-23 meeting, the group declared that fluorination should not be used on a large scale until (1) periods of controlled experimentation have fully elapsed; (2) all phases of the mass medication have been reviewed by competent medical, dental and public health authorities; (3) the practice has received the unqualified approval of such medical, dental and public health officials.

The meeting was held in conjunction with sessions conducted by the Indiana State Board of Health, and the more than 200 delegates heard technical reports and discussions dealing in detail with the every-day problems of the waterworks engineer.

For example, Charles Bachman, factory engineer, Neptune Meter Co., New York City, reported that current trend is toward the production of more sensitive water meters. Chief reason for this development is the conclusive evidence of a fairly substantial proportion of low-flow usage through the average ⅝-in. meter. For a water meter to earn its way, declared Mr. Bachman, it must be able to measure such small rates of flow accurately.

Loss in pipe capacity

Loss in flow of from 64 to 66 percent of the carrying capacities of the more common sizes of pipe in a period of 30 years has been noted in several cases, reported Alfred B. Anderson, chief engineer, Water and Sewer Division, Pittsburgh Pipe Cleaner Co., New York City. Such losses definitely increase the cost of operating a pumping system and usually warrant cleaning and rehabilitating the pipe.

Mr. Anderson advocated recoating water mains in place, where feasible, to preclude the necessity of periodic repetition of the cleaning process. In this connection he explained the Pittsburgh-Eric Process which is essentially an electrolytic method of depositing bitumen compound from aqueous solutions on the pipe interior.

Due to their imperviousness, vinyl resin and chlorinated rubber paints are the best protective organic coatings to prevent corrosion of metal pipes, both in sewage treatment and water filtration plants. This was the opinion of W. T. McClenahan, principal construction engineer, Sanitary District of Chicago (Ill.). But, said he, the cost of preparing the pipe surface by sandblasting, or other process, often tends to make these methods of protection uneconomical. He expressed confidence in the use of cathodic protection in elevated water tanks, combined with vinyl resin painting above water line, in conquering difficult cases of corrosion in water tanks.

Richard Coote, superintendent of filtration, Valparaiso, Ind., pointed out that public acceptance of the breakpoint chlorination in water treatment could be increased through greater publicity of the method. Closer customer relation as to the benefits of this treatment, said he, would reduce complaints regarding chlorine taste in the water.

Ohio River Compact to be signed June 30

The Ohio River Valley Compact, recently ratified by eight states, is scheduled to receive official signatures on June 30.

The Virginia Assembly was the last to ratify the compact (*ENR* March 4, vol. p. 333).

Pennsylvania approved the compact in 1945. Other states joined in the compact are West Virginia, New York, Ohio, Indiana, Illinois, and Kentucky.

Plan Potomac River anti-pollution work

A newly-organized technical committee will undertake the job of clearing pollution from the Potomac River basin. The committee was set up by the Interstate Commission for the Potomac River Basin at the conclusion of a recent two-day meeting in Harrisburg, Pa. The new committee will correlate all information available on pollution in Virginia, West Virginia, Maryland, Pennsylvania and the District of Columbia, which make up the interstate body. Representatives of each of the governmental units will make up the new body.

A major problem is the development of ways and means to clean up polluted areas near Washington, D. C. John Nolen, Jr., a member of the District of Columbia's technical committee, said the task could be achieved only by complete coordination between the planning agencies of the Washington metropolitan area and those responsible for sewage disposal from the suburban sections.

Approve $15 million bonds for Tulsa water supply

Voters of Tulsa, Okla., recently approved the issuance of $15,750,000 in bonds to finance construction of an additional water supply from Spavinaw Creek that would increase the city's available water by about 45,000,000 gal.

Spavinaw Creek, 65 miles northeast of the city, was first tapped in 1924, but engineers have declared that the city has outgrown the 25,000,000 gal. capacity of the present pipeline.

The new project would consist of construction of a new dam on Spavinaw Creek ten miles above the existing structure, laying of a new reinforced concrete pipeline paralleling the present line, raising the present dam and construction of a 15,000,000 gal. high service reservoir west of the city.

W. R. Holway and Associates, of Tulsa, have been named engineers for the project. Contracts for raising the present dam and for underground investigations will be ready for bids in June.

House group OK's revised pollution control bill

The Public Works Committee of the U. S. House of Representatives last week approved a revised version of S. 418, the Stream Pollution Control bill passed by the Senate last July (*ENR* July 24, 1947, vol. p. 101).

As passed by the Senate, the bill would permit loans up to $100,000,000 annually to states, local public works groups and industry for construction of treatment facilities. It would also have permitted advances to a total amount of $12,000,000 yearly to public works bodies only for detail planning of control facilities, and would have allowed $5,000,000 yearly for the Surgeon-General's office to assist evaluating abatement needs.

As revised by the House committee, the bill authorizes $114,000,000 for the first five years of the program, of which $100,000,000 would be used for loans on interstate stream pollution control works. Research and project planning would be aided by grants totalling up to $5,000,000 in each category during the five-year period, and $800,000 would be authorized to be appropriated for enlarging stream pollution research facilities at the U. S. Public Health Service laboratories in Cincinnati. No loans or grants to industries are authorized.

Both measures would place general supervision of the program in the Surgeon-General's office and in the Federal Security Agency.

St. Louis carpenters sign two-year pact

Action highlights series of labor developments reported during week

The Carpenters' District Council and the Home Builders' Association of Greater St. Louis, Mo., last week announced a joint two-year contract covering wages and working conditions.

The contract was the only agreement reported in a series of labor-management disputes recorded during the week.

The St. Louis agreement sets hourly wages for carpenters on residential construction at $2.20 and establishes a joint program for training apprentices and improving the efficiency of the journeymen carpenters in the residential field. Characterized by carpenter union leaders as their group's contribution to stabilizing residential construction costs, the agreement was made as local newspapers printed reports by the Dow Service Real Estate Evaluation Calculator which said that housing construction in St. Louis costs more today than in any other large city in the United States.

Other disputes reported

Disputes reported during the week included: Some 200 members of the Operating Engineers Union at Fort Wayne, Ind., went on strike after the Union rejected a proposal by the Associated Building Contractors for a 20-cents-an-hour wage increase. The union is seeking increases up to 35 cents an hour, and averaging 25 cents. Work on a "classified" (secret) government construction project near Albuquerque, N. M., was stopped for ten days in April by a strike of about 700 workers that started when 58 union carpenters walked off the job to enforce their demands for a wage boost. Members of five other unions refused to cross the picket lines. Settlement was reached finally with general raises for all of the striking groups.

Miami, Fla., plumbers went on strike following a breakdown in negotiations for higher wages, in which the plumbers sought an increase from $18 to $24 a day for journeymen; between 600 and 700 carpenters and common laborers were recently laid off on big building projects in Boston, Mass., because of the walkout of bricklayers and stonemasons who left their jobs April 1; and builders at Milwaukee, Wis., renewed their offer of 20 cents an hour increase in pay in an effort to end a strike of lathers and plasterers.

At Buffalo, N. Y., a tie-up of several million dollars worth of industrial and home construction became effective as the AFL building trades and local contractors remained at odds over new wage contracts after several weeks of negotiation. At least 15 of the 22 unions involved called their men from work when employers failed to approve demands for 25-cent hourly wage increases.

The Masons, Bricklayers and Plasters Union, at Rochester, N. Y., has approved the award of 19 cents an hour pay increase that brings their scale up to $2.29 an hour. At Jamestown, Ky., striking construction workers brought work to a halt on the Wolf Creek hydroelectric and flood control project, and painters at Kenosha, Wis., called a city-wide strike over their demand for a 25-cent-an-hour raise.

Building apprentices increased by 10,000

Nearly 10,000 apprentices joined the ranks of trainees in the building trades during March, the Labor Department's Bureau of Apprenticeship announced last week. The March increase, largest ever recorded, swelled the total on April 1 to 124,294 apprentices employed in the building crafts—a new, all-time high.

This total, obtained from 6,770 reports from all sections of the country, does not represent complete coverage, the bureau explained. It is 8.2 percent greater than the 114,882 listed on March 1.

Classified by broad trade groups, the apprentices on April 1 were employed in: woodworking trades, 44,721; pipe trades, 19,321; electrical trades, 18,163; trowel trades, 17,063; sheet metalwork trades, 9,620; painting trades, 8,955; and other building trades, 6,451.

NLRB examiner bars secondary picketing

A National Labor Relations Board examiner last week handed down a ruling barring secondary picketing in a building labor dispute.

The examiner held that a Kansas City, Mo., carpenters union local was in violation of the Taft-Hartley Act when it picketed a prefabricated housing development. A picket-line allegedly turned back truck drivers from delivering goods to one employer (the job being picketed), and "induced" the drivers to stop doing business with another employer by a "tacit threat of reprisal."

Four other actions charged against the union—an AFL affiliate—were held not in violation of the law. These included moves to have the employers name placed on an "unfair" list.

J. Rich Steers, Jr., elected president of The Moles

J. Rich Steers, Jr., president of the J. Rich Steers, Inc., New York firm that is now engaged in rebuilding war-damaged harbors in Greece at Salonika, Piraeus and Volos and the Corinth Canal, on May 5 was elected president of The Moles, New York society of tunnel and heavy-construction men. He served last year as vice-president.

A graduate of Princeton University, and a World War I veteran, Mr. Steers completed important construction contracts for the Navy Department before and during World War II. These projects included two large drydocks and two piers and a shipway at the Brooklyn Navy Yard, and the building of 1,200 invasion barges.

Currently, the company, which specializes in waterfront improvements, is building new ferry slips at Staten Island for New York City's Department of Marine and Aviation.

Plan uniform markings for Ohio pavements

The Ohio Department of Highways last week announced a program to obtain uniformity in the use of pavement markings.

The "Ohio Manual of Traffic Control Devices for Streets and Highways," prepared by the Division of Traffic and Safety in accordance with the state's Uniform Traffic Act, outlines the standards to be used by local communities in the markings of pavements or streets. The types of pavement markings prescribed in the manual include those for center-lines, lane-lines, no-passing zone, approaches to railroad crossings, approaches to highway intersections, stop-lines, crosswalk-lines, parking-stall markings, safety-zone markings, islands, etc.

All center lines are to be white. The yellow line is to be used exclusively as an auxiliary parallel to the normal center line to indicate no-passing zones where the view ahead is restricted and it is unsafe to pass. The yellow line when in the driver's lane, to the right of the center line, is a "barrier" line which warns that crossing the yellow line to overtake and pass is hazardous.

The Uniform Traffic Act provides that all pavement markings by local communities shall conform to the manual of traffic control.

HIGHLIGHTS OF MUNICIPAL DEVELOPMENTS

Summarizing current activities in city engineering and construction throughout the country.

Philadelphia begins annual review of public improvement program —Los Angeles gets low bid for fog dispersal installation at airport—Street repair programs carried forward—Anthracite producers offer guide for eliminating smoke nuisance

Philadelphia, Pa., last week had initiated its annual review of city public improvements, with a request to all department heads to submit their recommendations for such improvements to the City Planning Commission.

The reported action was one of many in which U. S. cities began a study of construction programs in relation to financing and other conditions.

In Philadelphia, the Planning Commission must present a complete, 6-year program to the city council by Sept. 15. On account of limitations upon the city's ability to finance improvements, Mayor Bernard Samuel emphasized that great care should be taken in scheduling projects, with accent placed on completion of projects already under way.

Milwaukee's 20-year effort to revise its building code was the subject recently of a progress report by Leon J. Gurda, city building inspector, who is a member of the code revision committee. To date the committee has held 131 meetings and eight public hearings on various portions of the proposed new code, and 27 of the proposed 41 chapters have been written.

The Los Angeles city council sustained Mayor Fletcher Bowron's veto of an ordinance that would have liberalized density controls in the zoning code. The defeated ordinance, which would have increased from two to six times the number of apartments that could be built on one lot, was bitterly opposed by the mayor in a month-long dispute with the council. The mayor maintained that relaxing of the zoning law would create "virtual tenements" and unnecessary congestion.

At Vancouver, B. C., the city government carried forward a $50,000,000 10-year civic improvement plan with the announcement that it would spend about $500,000 on park improvement during the current year.

And in Pittsburgh, Pa., city employees were putting finishing touches on a topographic map which was hailed by Charles B. Taylor of the planning department as the "best map of its kind ever made." It is expected to provide an accurate inventory of existing topography so that intelligent planning can be carried forward. The topographic map will comprise 147 sheets covering 92.63 sq.mi., and is now 83 percent complete.

Offer smoke solution

A report on methods by which smoke nuisances may be eliminated or abated through the mixture of anthracite with smoke-producing soft coal was published recently by the Anthracite Institute for smoke abatement and power plant engineers and others.

Called "Anthracite, An Aid to Smoke Abatement," the report points out that smoke is a symptom of waste, and reduction of smoke usually means the reduction of operation costs. Citing results obtained in a Bureau of Mines experiment at Camp Kilmer, N. J., where barley-sized anthracite was mixed with nut and slack bituminous coal in amounts ranging from 33 to 80 percent anthracite, the report says that a 50 percent mixture eliminated clinkers, made for better burning and reduced the smoke output.

The report is available at the Institute offices, Wilkes-Barre, Pa.

Meanwhile, Omaha, Neb., began its third attempt to find a smoke abatement engineer to carry out the city's program. Two previous examinations for the five to six thousand dollar-a-year job attracted no applicants.

Bids on "Fido"

The Bechtel Corp. last week had submitted a low bid of $843,656 for installation of "Fido" (fog dispersal system) equipment at the Los Angeles airport. One other bid, of $1,074,565, was also submitted.

The contract for what will be the first commercial installation of the war-born system must be approved by airline companies, the city's Board of Airport Commissioners and the Civil Aeronautics Authority. Installation work will begin soon after letting of the contract and completion is scheduled for eight months after notice to proceed is given to the contractors.

The installation will include 392 triple-burner units each, varying from 10 to 90 ft. apart along 5,000 ft. of runway and 2,000 ft. of runway approaches. The pipe will vary in size from 2 to 12 in., and fuel tanks will be two standard API tanks of 130,000-gal. capacity.

CAA will pay 54 percent of the bill for installation, and Los Angeles will advance the remainder. The city's funds, in turn, will be repaid by Transcontinental Western Air, Pan American, United, Western and American airlines over a 5-year period. The airlines also will share operating and maintenance costs on the basis of individual use.

City engineers said that the estimated cost of operating the system is from $25 to $200 per landing, depending on weather conditions.

Administration troubles

Albuquerque, N. M., which recently had plenty of trouble over the hiring of a city manager, has formally rejected some dozen applications for the post. However, the city council has not named Acting City Manager Charles E. Wells to the post permanently. Observers said the delay is caused by disagreement among the five members of the city commission over the amount of the salary—currently $12,000 annually.

Wells was city manager for a number of years, but was ousted after a change of control in the commission's makeup last October. The commission subsequently named three managers in succession, and all quit before or within a few days after taking the job. The commission then named Mr. Wells acting manager.

Meanwhile, Mr. Wells ordered the suspension for five days of City Engineer E. O. Betts for taking an off-duty private surveying job. Mr. Wells charged that Betts had violated a city commission order forbidding employees to hold down part-time jobs for other employers.

Mr. Betts countered with the statement that he did the work with his own equipment and on his own time and didn't think it would be affected by the ruling.

Traffic problems

The municipal approach to the traffic problem last week ranged from plans for constructing a new boulevard in Philadelphia, Pa., to approval of an underground parking garage at Los Angeles.

The Philadelphia City Planning Com-

mission announced plans for construction of Pennsylvania Boulevard, to extend from Reybourn Plaza to the 30th Street railroad station and beyond the station to Market Street at 32nd Street. The road is to be built after the Pennsylvania Railroad has completed additional tracks and facilities on a lower level to permit removal of the famous "Chinese Wall" that now runs down the center of Pennsylvania Boulevard.

Baltimore, Md., authorized the removal of trolley tracks from Baltimore Street—one of its main throughfares—as part of a general move to reroute street car lines and provide easier traffic conditions in the congested downtown area.

New York State announced that it may be in a position this fall to award the first contracts for work on its proposed $20,600,000 arterial highway program for the Binghamton area; and the Texas State Highway Department announced it would receive bids June 23 for construction of a bridge on the Nueces Bay Causeway near Corpus Christi. The state began construction of the $2,500,000 causeway in 1945, but the work has been delayed, first by the war, and secondly by inability to obtain right-of-way.

At Los Angeles, the City Planning Commission endorsed a proposal for a 2,500-car underground parking garage under Pershing Square in the downtown district. The endorsement was made in the form of a letter to the Recreation and Park Commission—which holds title to the park—emphasizing that the planning commission approved the plan in principle, but pointing out that the garage would reduce the surface area devoted to park and landscaping purposes.

In an effort to halt the growing congestion in the downtown "loop" area of Indianapolis, Ind., Mayor Al Feeney and the city Board of Safety considered eight recommendations submitted by police traffic officers. They are: Enlargement of the downtown loop and elimination of all turns in the central business area; enactment of a tow-in ordinance; allocation of at least 25 percent of police to traffic work; increased use of the blockade system to trap law violators; use of suburban railroad trains to relieve rush-hour congestion; improved street lighting in traffic fatality spots; replacement of hard-to-read and confusing traffic signs; and greater safety instruction in schools by teachers.

Building codes

A new building code is being prepared for Akron, Ohio, and efforts are being made to draft a new state building code by a 27-member committee of the Ohio Postwar Program Commission.

A special committee is studying the proposed new building code for Harrisburg, Pa., prepared by Building Inspector J. B. O'Brien.

The building inspector and a committee on building code revision in Milwaukee, Wis., have prepared a revised section on plumbing which the *Milwaukee Journal* characterizes as a "code for plumbers and plumbing contractors, not for the public." The newspaper charged that instead of getting rid of unnecessary provisions that add to the cost of a small house, the committee has added more.

SPEEDS COAL HANDLING—Dedication ceremonies on April 28 signified completion of the new $4,500,000 Baltimore & Ohio lakefront dock at Lorain, Ohio. The new coal dumper (shown on the 1,100-ft. pier to the left in the above photograph), built by Heyl and Patterson, Pittsburgh, Pa., can unload one 70-ton coal car per minute. Three ore-unloading machines operate on the other pier, while total capacity of yards is 4,000 cars.

City building

Mayor James Curley of Boston, Mass., announced plans for an additional $7,725,000 building construction and road building program for 1948. The addition of these projects brings to $73,000,000 plans in progress and under construction by the city.

Largest public buildings included in the program are a $1,500,000 nurses' home and city hospital, a 200-bed unit at the Long Island Hospital for chronic diseases, to cost $1,250,000, and a garage and repair shop for the Boston fire department to cost $1,300,000.

Louisville, Ky., city officials, preparing for the annual budget hearings, submitted plans for $2,000,000 worth of construction of buildings and streets by the Public Safety Department and the Public Works Department. One million dollars of the money would be needed to put Louisville's 460 miles of paved streets into good condition, and the remaining funds would be used to build a new municipal garage and to replace funds drawn for the winter snow removal work.

At the same time, the Boston Metropolitan Transit Authority announced that fourteen sections of surface line track will be replaced in Boston.

Los Angeles Public Works

This year's $28,000,000 public works program for Los Angeles, Calif., is well under way. One of the largest projects will be an addition to the Lincoln Heights jail. Plans and specifications are now being drafted for the addition which will cost about $3,000,000. Eleven fire stations, costing from $100,000 to $200,000, are also scheduled. Six of those are now under construction; plans for two are almost complete and plans for three more are being drawn.

The $28,000,000 program also will include structures built this year for the Hyperion sewage disposal plant, as well as an estimated $4,000,000 system of interceptor sewers to connect the Hyperion plant with regular sewer lines. Street and storm drain maintenance, a $250,000 shop building and police station improvements are also scheduled.

Random Lines *from an editor's notebook . . .*

. . . Wherein is told the success story of a man who has been an active engineer for 50 years and is still going strong

There aren't many civil engineers who are still active at their profession after fifty years, and there aren't many with any amount of experience who have been more successful than 76-year old Robert Emmett McDonnell of Kansas City, Mo. His firm—Burns & McDonnell, waterworks specialists—is celebrating its 50th anniversary this month.

Mr. McDonnell's Horatio Alger story started in 1898, when he and Clinton S. Burns put up their shingle as Burns & McDonnell, Consulting Engineers. Their office was a one-room space in the New England National Bank Building at the northeast corner of Ninth and Wyandotte Streets, Kansas City. For a long time clients were few and far between.

His father, John McDonnell, was an Irish immigrant, his mother was a native of Harpers Ferry, Va. The couple became pioneers in Montana, and the elder McDonnell raised cattle on the open range. Robert Emmett, christened after the famous Irish patriot of that name, was born in 1872. He attended high school in Bozeman, and finished first of eighty contestants in the state for a teacher's certificate, teaching school then for two terms. From his earnings as a teacher and from his work driving stakes for the county engineer, he saved enough to start his engineering course at the then new Stanford University in California in 1892. While in college he got the job of city engineer of Palo Alto, Calif.

Early experiences

In the summer of 1894, McDonnell with three other Stanford students went to San Francisco to get a summer job on a ship going to Hawaii. They didn't get the job but they stowed away on the ship anyway, and succeeded in getting some manual work on the island at a dollar a day.

One of McDonnell's classmates was Herbert Hoover, and his first experience as a surveyor was with the future President.

Burns and McDonnell were two years out of Stanford when, in the spring of 1898, they went to Kansas City—then a city of about 160,000 population, as compared with the 634,000 population of metropolitan Kansas City today. Between them they had about $500, courage, ideas and good technical educations. That is about all they had.

In the first three years their efforts as consulting engineers netted them exactly 13 cents, and the partners took other jobs to maintain themselves. For a time, both lived on Mr. Burn's salary

R. E. McDONNELL
. . . 50 years an engineer

of $125 per month as an assistant engineer for the Kansas City Park Board.

This spring as the Burns & McDonnell firm celebrates its golden anniversary it has 100 workers in its Kansas City headquarters, and 85 projects under way, scattered from Montreal, Que., to Provo, Utah. One of them is a $2,500,000 water pipe line, 7½ miles long, in Kansas City. Another is a $9,500,000 light and power plant for Cleveland, Ohio.

50 years—2,093 projects

In its 50 years the company has had 2,093 projects, the aggregate cost of which was $664,000,000. These projects have been in 44 states, Canada, Mexico and Alaska.

Clinton Burns died 24 years ago, but Mr. McDonnell at 76 is still going strong. His son, R. H. McDonnell, is now one of the eight partners.

At the very beginning, Burns and McDonnell decided they were going to become specialists in waterworks, sewers and lighting, but they were slow in getting started. Their first real luck came in 1900 when they got a contract to build a waterworks, sewer system and electric lighting plant for Iola, Kan., which contract they got with some difficulty because the mayor thought that McDonnell was too young to do the work, but when it was found that his estimates were lower than a competitor's, he got the job. The project was successful and the young firm made a profit of $970.50 that third year, and ever since there has been no recession.

Why he succeeded

One incident in the early part of Mr. McDonnell's career is enough to explain his success as an engineer because it shows how he is never discouraged and always resourceful. The story is told by the Kansas City "Star" as follows:

"Once his firm designed a pipe line to run under the Snohomish River and carry water to Everett, Wash. After the line had broken three times in course of construction, the contractor had thrown up the job and said to the engineers:

"Here, you say the damned thing can be built; let's see you build it."

"McDonnell hired divers to go down to see whether the pipe line was securely lashed to piles. Finally, the job was done, and McDonnell and his superintendent, a man 6 feet 4 inches tall, decided to crawl through the pipe line to find if everything was O. K.

"The pipe line took off from the shore at about a 45-degree angle. McDonnell and his superintendent went down—McDonnell first.

A backward crawl

"About the middle of the pipe line they encountered deep water.

"'Turn around in the pipe,' he shouted to his big superintendent, 'we'll have to go back,' but the big fellow said, 'I guess I'm too long-legged—I can't turn around in this pipe.'

"The two struggled some more, drowning out their miners' lanterns in the process. They were now mouth-deep in water, without light and headed in the wrong direction. Inch by inch, they scooted backward through the tube. Finally they got to the place where the pipe started up the bank by the 45 degree slope. The superintendent started to crawl up, backwards. McDonnell right after him. The big fellow slipped, shoving McDonnell all the way down to the bottom.

"Eventually they began to shout for help. Their associates, meanwhile, had gone across the river. It was about 6:30 in the morning when it occurred to one of the frightened watchers to look back at the end of the pipe line where the two had gone in. There they were, waiting to be pulled up, feet first."

But ever since McDonnell has been going *forward*.—T.D.M.

Van Praag says NSPE needs strong chapters

President of National Society of Professional Engineers is speaker at annual meet of New York State section

The strength and effectiveness of the National Society of Professional Engineers will be in the strength of its state and local groups, Alex Van Praag, Jr., president of the national society, told members of the New York State Society of Professional Engineers assembled in New York on May 1 for their annual meeting.

The county chapters and the member state societies must be strong, Mr. Van Praag said, if the national society is to be successful. Opposed to the building of a "top-heavy national society," the speaker declared that the chief function of the national society should be to coordinate the work of state societies.

Mr. Van Praag said that he does not think unity of the engineering profession can be attained through a federation such as the Engineers Joint Council, as the professional level is the only common ground. On the other hand, he said, there should be no sniping at the older societies. "We have no quarrel with the Founder Societies," he added, "so long as they stick to technical matters."

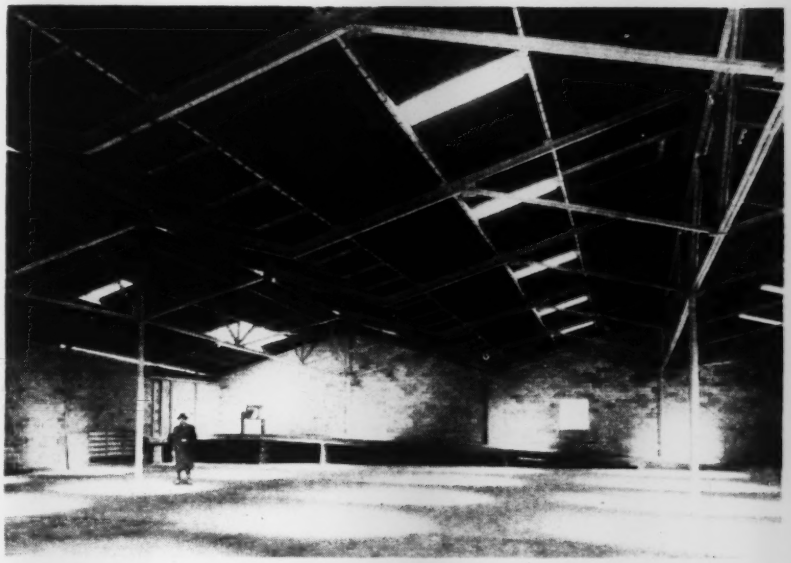
William H. Larkin, president of the New York society, and George H. Barrows, executive secretary, in their reports to the meeting both stressed the need for trained legal counsel in handling legislative and labor questions. This view, however, was strongly opposed in discussions during the meeting, especially the proposal to hire a lawyer to represent engineers involved in a labor dispute, as had been done by the New York County Chapter.

The outcome was that the chapters were told that they would have to bear the cost of hiring a lawyer if they believed they needed one. The cost cannot be passed on to the state society.

Mr. Barrows reported that the state license law had been amended to simplify the procedure to be followed by licensed engineers from other states who wish to practice temporarily in New York. Such men can now use their own seals on plans for work in the state.

William W. Perry, chief engineer, New York State Electric and Gas Corp., Binghamton, was elected president, and Robert A. Sovik of Syracuse elected a vice-president to succeed Mr. Perry. New directors are Carl L. Zamjohn, Arthur L. Laroche and Edward J. Nunan.

Membership of the New York State Society of Professional Engineers increased during the year to 2,541.



UMBRELLA TRUSS—Roof-trusses that are said to utilize 5 lb. of structural steel per square foot of roof, as compared with 7 to 10 psf. in conventional types, are used for a 39,000-sq. ft., one-story factory and warehouse built at New Orleans, La. for the Ware Cotton Batting Co. Steel columns in the windowless concrete-block structure are spaced 43 x 50 ft., and steel purlins at 7-ft., 3-in. intervals. The 24-ga. protected-metal roof decking is fitted with corrugated wire-glass skylights. Three Warren trusses, 50-ft. apart, span the width of the building, and inverted V trusses about 17 ft. apart, run the length. Architects were Freret and Wolf, and contractors, Perrilliat-Rickey Construction Co, both of New Orleans. Patents for the umbrella truss have been applied for by the designer—William H. Creighton.

FHA reports big rise in house building

Home building construction figures for the first quarter of 1948 show that more than twice as many new dwelling units were started in the first three months of 1948 under Federal Housing Administration inspection than were started under similar conditions in 1947, an FHA announcement said last week.

More than four times as many dwelling units, built under FHA inspection, were completed in these first three months of 1948 than in the same period last year. Twice as many new construction applications were filed in that period as were filed during the corresponding period in 1947.

In addition to the operations cited there was a gain of 21% in applications for FHA mortgage insurance covering existing structures over such applications in 1947.

The first-quarter figures show, in detail:

New dwelling construction starts under FHA inspection were 60,432 in 1948 compared with 26,562 in 1947—a gain of 128%; dwelling units completed under FHA inspection, 51,479 units in 1948 compared with 11,798 in 1947—a gain of 336%.

Bond issue approved for E. St. Louis bridge

The East St. Louis, Ill., city council last week gave final approval for a $10,000,000 bond issue for the East St. Louis bridge across the Mississippi River.

A previously proposed bond issue for $9,400,000 was abandoned because its 3½ percent rate of interest was too low to attract bidders. The new bond issue authorizes 4 percent interest on the first $6,000,000 and 3¾ percent on the remaining $4,000,000.

Army urges $35 million C&D canal work

A $35,540,000 program of improvement for the Chesapeake and Delaware Canal at Chesapeake City, Md., was urged by Army Engineers recently.

The proposed improvement program would widen the present 250-ft. channel by another 100 ft. along the entire length of the 20 mile canal; remove the last three lift-type bridges still in use to carry traffic across the waterway, and provide for excavation of a new cutoff channel near Chesapeake City.

MEN AND JOBS

Ralph W. Stewart, engineer in charge of bridge and structural design for Los Angeles, Calif., and an employee of the Board of Public Works for 38 years, has retired.

Col. Mason James Young, who recently took over as division engineer of the South Atlantic Division, Atlanta, Ga., expects to push work on the Jim Woodruff, Clark Hill and Allatoona multi-purpose projects in Georgia out of a $40,000,000 budget for the next fiscal year. Colonel Young, following a distinguished record during the war, was engineer of the Army Ground Forces with headquarters first in Washington and later at Fort Monroe, Va., before being assigned to Atlanta.

Appointment of **Gwynn E. Riley,** of Pittsburgh, Pa., as resident engineer for the Clarion maintenance district of the Pennsylvania Highways Department has been announced.

Burwell Bantz, city engineer of Tacoma, Wash., for the last three years, has resigned but will act as consulting engineer for the city for a limited time. Before becoming Tacoma city engineer, he had been Washington state highway director for four years and previously had been Lewis County engineer for many years.

Jack Joplin has been transferred to the Okanogan district office of the Washington State Highway Department, after having served in the Wenatchee office for many years. **K. B. Arkin,** who was in charge at Okanogan for the last year, was transferred to the Narrows bridge project at Tacoma.

Arthur G. Livingston, bridge engineer for the Delaware State Highway Department, will be retired on May 1 after 30 years of service. **James M. Gordon,** assistant bridge engineer was appointed as his successor. Mr. Livingston has spent his entire career in the bridge division. Mr. Gordon joined the division in 1930. He served in the Army from Sept., 1940, to Dec., 1945, and held the rank of major. He became assistant bridge engineer in 1945.

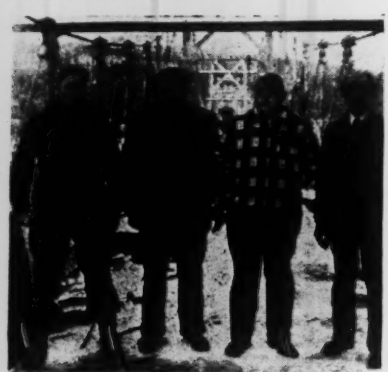
Arthur K. Steehorn, city planning engineer of Manitowoc, Wis., has resigned to take a similar position at Green Bay, Wis.

Basil Tuttle has resigned as city engineer of Menasha, Wis.

F. J. Ward is special assistant to Project Manager George Archibald of the Guy F. Atkinson & J. A. Jones Construction Co., Richland, Wash. He was formerly project manager for the J. A. Jones Construction Co., at Oak Ridge, Tenn., and for the same company he completed the Sears-Roebuck mail order plant at Greensboro, N. C., and in 1946 he designed and built the Winnsboro Mills housing project at Winnsboro, S. C., for the U. S. Rubber Co.

James E. P. Darrell, assistant traffic engineer of the Minnesota highway department since 1941, has been appointed traffic engineer to succeed the late W. F. Rosenwald. He was chief of plans for operations over the Ledo Road and Burma Road in the war.

James G. Dean of Louisburg, N. C., has been named assistant city building inspector at Greensboro, N. C., succeeding **M. H. King,** who has resigned to join a Charlotte firm. A graduate in civil engineering of North Carolina State College, Dean served with the



Posing for the ENGINEERING NEWS-RECORD reporter at the Pennsylvania end of a nearly completed new type multiple span suspension bridge across the Delaware River between Lumberville, Pa., and Raven Rock, N. J., are (left to right): William F. Haman, James S. Hillman, Oscar B. Parker and Frank M. Meyerend. Messrs. Hillman and Haman are of the engineering staff of the Delaware River Joint Toll Bridge Commission and Messrs. Meyerend and Parker are construction engineer and construction superintendent, respectively, for John A. Roebling's Sons Co., Trenton, N. J.

O. J. Ellertson, right, export manager, Pioneer Engineering Works, Minneapolis, Minn., discusses with E. Raoul Ruffo, engineer from Mexico Tractor and Machinery Co., S. A., Mexico City, the certificate of appreciation received by Pioneer for its contribution to the training of Latin American engineers. The award was made by the American Road Builders Association on behalf of the Inter-American Highway Engineering Conference sponsored by ARBA with the cooperation of the Department of State, PRA, the Office of Inter-American Affairs, and the Pan-American Highway Confederation.

George G. Stroebe, left, receives a certificate of appreciation and gifts from fellow workers on his retirement from active service with the Corps of Engineers, Los Angeles District. Col. A. T. W. Moore presented the certificate. Stroebe, who is 70, started government service in 1910 when he went to the Philippines with the Bureau of Public Works, primarily concerned with the construction of water works. In 1922 he was employed by the Chinese Government to head flood control works along the Yangtze River. He returned to the U. S. in 1938, joining the Corps of Engineers in Sacramento.

70th Division overseas during the war.

J. O. Lambeth of Oxford, N. C., has resigned as an engineer with the North Carolina State Highway and Public Works Commission to become superintendent of public works, a newly-created municipal position, at Thomasville, N. C. During the war he was in engineering work at a number of military bases in the South and in Central America.

W. R. Devenish, civil engineer and graduate of Trinity College, Dublin, has retired as vice-president of Canadian National Railways, Western Division, Winnipeg, Man., and is replaced by **J. P. Johnson,** formerly general manager of the Atlantic Division.

Theodore M. Kuss, formerly chief engineer with the Pacific Bridge Co., has set up a general civil engineering practice in San Francisco. At one time he was West Coast manager with F. R. Harris, Inc., and was associated with L. H. Nishkian & B. L. Nishkian.

Alexander Russell has been appointed deputy city engineer of Santa Cruz, Calif. A graduate of the University of California, he formerly was an engineer for Sacramento.

J. W. Roy Norton has been appointed state health officer for North Carolina, to succeed **Carl V. Reynolds,** who has resigned after 14 years of service. Dr. Norton is at present chief health officer of the Tennesse Valley Authority. A graduate of Trinity College, Durham, N. C., (now Duke University) he formerly was health officer at Rocky Mount, N. C., later assistant director of the division of county health administration, State Board of Health. He taught public health administration at the University of North Carolina, Chapel Hill, N. C.

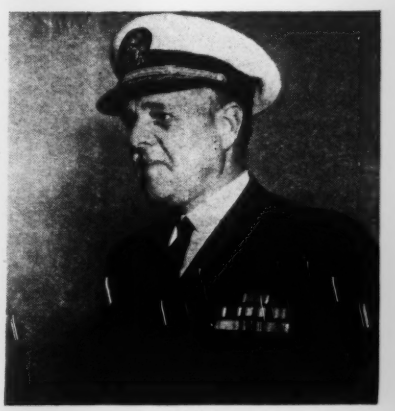
H. A. Lind, construction superintendent for Kuckenberg Brothers, Portland, Ore., contractors, is bossing a $3,744,000 job called toughest piece of highway construction in Pacific Northwest—9.8 mi. of North Santiam highway in western Oregon.

Irving M. Baker has been appointed chief deputy engineer of Cuyahoga County, Ohio, succeeding **William E. Blaser,** recently named engineer in charge of the $16,000,000 Inner Belt Bridge.

C. E. Huffstetter, chief of the engineering division, Memphis district, Corps of Engineers, retired April 1 after 36 years of service, nearly all of it in the Memphis district. Beginning as a surveyor, he retired from one of the chief engineering positions in the district. He planned the district's system of flood control structures that has stood successfully for 20 years.

Clinton D. Woods, reclamation engineer who had been serving as assistant to Regional Director E. O. Larson of the Bureau of Reclamation's Region 4 with headquarters at Salt Lake City, has been appointed assistant regional director. He has been with the bureau since 1934. His new position will make him second in command of reclamation activities in Utah, most of Nevada, and parts of Colorado, Wyoming, Idaho, New Mexico, and Arizona.

D. N. Clark, J. S. Clark and **Alton Edwards** of Fayettevile, N. C., have formed Clark and Edwards Construction Co.



Capt. C. Reid Johnson has reported to the commandant of the 11th Naval District, San Diego, Calif., to assume duty as the public works officer of the district. He relieves Capt. Alden K. Fogg, who recently retired to become city engineer for San Diego. Captain Johnson, 57, was public works officer at the Naval Academy when war was declared. Two months, later, he was assigned to supervise construction of U. S. Navy facilities in Iceland. Later Captain Johnson was assigned to the staff of Admiral Harold Stark, commanding officer of the naval forces in Europe.

Urban D. Gosselin has been named assistant to Clifford S. Strike, president of F. H. McGraw & Co., engineers and constructors, Hartford, Conn. Mr. Gosselin, who has been with the company since 1935, attended Wentworth Institute in Boston and is an associate member of the American Society of Civil Engineers.

Enlargement of the Fort Lauderdale, Fla., water treatment plant is being supervised by S. M. Dahms (left), resident engineer for E. M. Bacharach & Co. of Kansas City; Wm. R. Conine (center), resident engineer for Keis & Holroyd, Troy, N. Y.; and P. L. Emrich, general superintendent for the James H. Small Construction Co., Jacksonville, Fla.

W. G. Pruett, office engineer for the Alabama State Highway Department, and newly elected president of the Southeastern Association of State Highway Officials.

OBITUARY

Harold P. Vail, 55, senior engineer for the Metropolitan Water District of Southern California, died April 14. He had been employed by the water district for the last 17 years.

Harold Stevens, 60, who was bridge engineer for the National Railway at Parry Sound, Ont., was fatally injured April 23, while engaged in engineering surveys on a railway bridge construction project.

Joseph C. Pearson, past president of the American Concrete Institute and a retired director of research for the Lehigh Portland Cement Co., died recently at Allentown, Pa. Before joining the Lehigh company he had for 14 years done similar work at the National Bureau of Standards.

Claude A. Bonaparte, 50, deputy superintendent of the N. Y. State Department of Public Works, died at Delmar, N. Y., April 28. He previously served as engineer in charge of construction in Westchester County, N. Y., and as assistant Orange County engineer.

William A. Ehrman, 84, former Howard County, Ind., surveyor, died in Kokomo, Ind., April 26. He was first elected surveyor in 1902 and completed his last term in 1946, when he retired. He studied engineering at Worcester Polytechnic Institute, Worcester, Mass.

Harold R. Scoville, 53, assistant engineer of Ann Arbor, Mich., and for 27 years a city employee, died April 26.

Allan Janin, 68, civil engineer, died at Montreal, Que., April 25. He was president of A. Janin & Co., Ltd., general contractors, Montreal Construction Supply and Equipment Co., Ltd., and others.

Everett Jackson, 52, who was a civil engineer with the Massachusetts Department of Public Works until his retirement in 1943, died April 26.

B. F. Bacon, 77, retired highway engineer of Louisville, Ky., died April 26. He was road engineer of Hart County for 14 years.

Henry Zenas Osborne, Jr., 72, civil engineer and pioneer developer of Los Angeles, Calif., died April 28. He was a graduate of Stanford University and served Los Angeles for 50 years in various engineering capacities in the city Engineer's office for the Board of Public Utilities and the Department of Water and Power. He was credited with organization of the Traffic Commission and selection of the site of the Union Terminal.

Canada establishes new industrial defense board

An Industrial Defense Board has been set up by the government of Canada to insure that, in the event of war, Canadian industry will be able to make a maximum contribution with a minimum of delay, Brooke Claxton, defense minister, said last week.

H. J. Carmichael, of St. Catherines, Ont., wartime coordinator of munitions production in the Department of Munitions and Supply, and now vice-president of Conroy Manufacturing Co., is the first chairman of the board. Vice-chairman is J. Edouard Simard of Sorel, Quebec.

Two states announce public building programs

The Ohio legislature has appropriated $70,000,000 for a state building program. George B. Sowers, public works director, reports that the state now has $20,000,000 in construction work under way and $30,000,000 additional in the planning stage. A $5,000,000 new state office building in Columbus is among the projects planned.

Mississippi plans

The Mississippi State Building Commission has made allotment of the $26-million appropriation by the state legislature.

First work will be expenditure of $1,943,963 on construction for schools for the blind and deaf. A total of $3,000,000 has been set aside for the new state office building in Jackson.

MAJOR MEETINGS

Canadian Association of Equipment Distributors, General Brock Hotel, Niagara Falls, Ont., May 10-12.

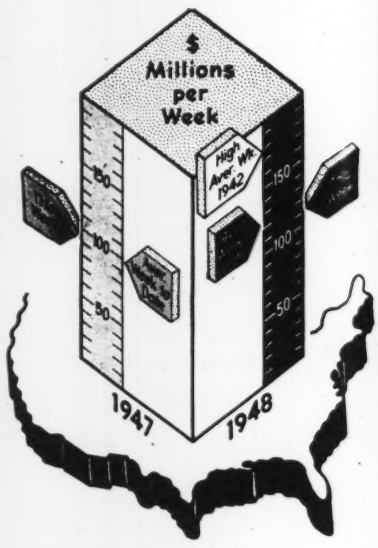
Society for Experimental Stress Analysis, The Roosevelt Hotel, Pittsburgh, Pa., May 27-29.

National Conference of Community Planning, annual meeting, Banff Springs Hotel, Banff, Alta., June 2-5.

American Society for Engineering Education, 56th annual meeting, University of Texas, Austin, Tex., June 14-18.

American Society for Testing Materials, annual meeting, Hotel Book-Cadillac, Detroit, Mich., June 21-25.

CONSTRUCTION ACTIVITY



As Reported this week to . . .
Engineering News-Record

CONTRACT VOLUME

Continental U. S. Only
(Thousands of Dollars)

	Week of May 6 1948	Cumulative 1948 (19 wks.)	Cumulative 1947 (19 wks.)
Federal	$23,273	$427,667	$185,280
State & Mun.	41,353	792,290	550,061
Total Public.	$64,626	$1,219,957	$735,341
Total Private	48,691	1,095,213	1,104,646
U. S. Total.	$113,317	$2,315,170	$1,839,987

WHERE CONSTRUCTION ACTIVITY ORIGINATED THIS WEEK

Dollar Volume (Thousands)

Type of Work	This Week	Cumulative 1948 (19 wks.)	Cumulative 1947 (19 wks.)
Waterworks ...	$4,727	$61,195	$46,060
Sewerage	2,982	77,897	37,997
Bridges	4,784	100,754	57,201
Highways	19,618	304,678	240,583
Earthwork, Waterways	5,928	217,108	98,027
Buildings, Public	24,138	379,080	181,727
Industrial ...	15,118	341,486	291,949
Commercial .	31,800	666,987	658,292
Unclassified ...	4,222	165,985	228,151

NOTE: Minimum size projects included are: Waterworks and waterway projects, $28,000; other public works, $50,000; industrial buildings, $68,000; other buildings, $250,000.

NEW PRODUCTIVE CAPITAL

	Cumulative 1948 (19 wks.)	Cumulative 1947 (19 wks.)
NON-FEDERAL	$1,265,029	$590,542
Corporate Securities	713,941	212,204
State and Municipal	551,088	378,338
Total Capital	$1,265,029	$590,542

ENR INDEX NUMBERS

Index Base = 100		1913	1926
Construction Cost..	May '48	449.11	215.89
Building Cost	May '48	335.18	181.19
Volume	Apr. '48	302	132

947
wks.)
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